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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,000	03/11/2004	Yoshinori Ogawa	12480-000040/US	4643
30593 7590 06/08/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER AMADIZ, RODNEY	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 06/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,000	Applicant(s) OGAWA ET AL.	
	Examiner Rodney Amadiz	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. Figures 12-14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakao (USPGPUB 2001/0003431—hereinafter "Nakao").

As to **Claim 1**, Nakao teaches a display device, comprising: a display panel (**Fig. 6, Reference Number 1**) including a plurality of pixels provided in matrix in a first direction and in a second direction (**Fig. 7, A**), the second direction intersecting with the first direction (**Fig. 7, see 15 intersecting 14**); a driving section (**Fig. 6, Reference Numbers 3 and 4 and Pg. 1, ¶'s 5-8**) for sequentially driving, in the second direction, each pixel line provided along the first direction, the driving section causing the display panel to display an image that is in accordance with display data (**Pg. 1, ¶'s 5-8**); a reference voltage generating section (**Fig. 1, 41**) for generating reference voltages (**Fig. 1, R0-R7**) that represent multiple gradations (**Pg. 4, ¶ 64 and 65**), the reference voltages being used for displaying the image in the multiple gradations (**Pg. 4, ¶ 64 and 65**); a gamma-correction adjustment section (**Fig. 1, 42 and Fig. 2**) for adjusting the reference voltages (**Fig. 1, R0-R7**) so as to perform gamma-correction of the display data (**Pg. 2, ¶ 22, Pg. 3, ¶ 46, Pg. 4, ¶ 65 and Pg. 5, ¶ 76**); and a control section (**Fig. 1, 43**) for controlling the gamma-correction adjustment section so as to change the reference voltages on which the gamma-correction has been performed (**Pg. 2, ¶ 21, 25, Pg. 6, ¶'s 88-91 and Pg. 7, ¶ 99**), the control section decreasing display unevenness between pixels that are adjacent to one another in at least one of the first and the second directions (***inherent because gamma corrections are being altered according to the liquid crystal material (Pg. 2, ¶ 18); therefore if two adjacent pixels have different materials then a gamma correction is made so that both pixels output the same optical characteristics—See also Pg. 6, ¶ 96***).

As to **Claim 2**, Nakao teaches that the control section includes a memory for storing gamma-correction adjustment data (**Pg. 6, ¶ 91**); and the control section changes a gamma-correction value in accordance with the gamma-correction adjustment data (**Pg. 2, ¶ 22-25. Pg. 3, ¶ 49, Pg. 4, ¶ 65-69, Pg. 5, ¶ 81 and Pg. 6, ¶ 88**).

As to **Claim 3**, Nakao teaches that the driving section (**Fig. 6, 3**) includes a memory for storing gamma-correction adjustment data (**Fig. 1, 43 and Pg. 6, ¶ 91—note that 41 (Fig. 1) encompasses 43 and is shown in Fig. 10 as 39—i.e. replace 39 in Fig. 10 with reference element 41 shown in Fig. 1**); and the control section changes a gamma-correction value in accordance with the gamma-correction adjustment data (**Pg. 2, ¶ 22-25. Pg. 3, ¶ 49, Pg. 4, ¶ 65-69, Pg. 5, ¶ 81 and Pg. 6, ¶ 88**).

As to **Claim 4**, Nakao teaches that the display panel is divided into a plurality of display regions aligned in the first direction (**Fig. 6, 3—note that each source driver controls a different display region**); and the driving section includes a plurality of drivers for driving the plurality of display regions respectively (**Fig. 6, 3**).

As to **Claim 8**, Nakao teaches that the display panel includes: a thin-film transistor panel (**Fig. 6, 1**) including (i) a plurality of pixel electrodes (**Fig. 7, 11**) and (ii) thin-film transistors (**Fig. 7, 13**) respectively for the plurality of pixel electrodes (**See Fig. 7**); and an opposed panel on which opposed electrodes are provided (**Fig. 6, 2**); and the thin-film transistor panel and the opposed panel are provided in an overlapping manner so that an electrode formation surface of the thin-film transistor panel and an electrode

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formation surface of the opposed panel face one another (*See Fig. 6 and Pg. 1, ¶'s 3-8*).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao in view of Applicant's Admitted Prior Art (herein after AAPA).

As to **Claim 6**, Nakao fails to teach that the display panel includes a plurality of separate display panels provided in a surface direction of the display panel. Examiner cites AAPA to teach a display panel including a plurality of separate display panels provided in a surface direction of the display panel (*See Fig. 13 and Pg. 3, second to last paragraph—Pg. 5, second to last paragraph*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate a plurality of separate display panels as taught by AAPA in the display device taught by Nakao in order to produce a modular display which encompasses several panels that are easier to repair.

As to **Claim 7**, Nakao fails to teach that the display panel includes a plurality of small display panels that are bonded together so that display screens of the plurality of small display panels are on a same plane. Examiner cites AAPA to teach a plurality of

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small display panels that are bonded together so that display screens of the plurality of small display panels are on a same plane (***See Fig. 13 and Pg. 3, second to last paragraph—Pg. 5, second to last paragraph***). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate a plurality of small display panels that are bonded together so that display screens of the plurality of small display panels are on a same plane as taught by AAPA in the display device taught by Nakao in order to produce a modular display which encompasses several panels that are easier to repair.

As to **Claim 9**, most of the claim limitations have already been addressed with respect to claim 8 with the exception of the display panel including a plurality of thin-film transistor panels and that the plurality of thin-film transistor panels are bonded together so that display screens of the plurality of thin-film transistor panels are on a same plane. Nakao fails to teach the display panel including a plurality of thin-film transistor panels and that the plurality of thin-film transistor panels are bonded together so that display screens of the plurality of thin-film transistor panels are on a same plane. Examiner cites AAPA to teach the display panel including a plurality of thin-film transistor panels and that the plurality of thin-film transistor panels are bonded together so that display screens of the plurality of thin-film transistor panels are on a same plane (***See Fig. 13 and Pg. 3, second to last paragraph—Pg. 5, second to last paragraph***). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate a plurality of thin-film transistor panels that are bonded together so that display screens of the plurality of thin-film transistor panels are on a same plane as

taught by AAPA in the display device taught by Nakao in order to produce a modular display which encompasses several panels that are easier to repair.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao in view of Nakamura (USPGPUB 2003/0043132—hereinafter “Nakamura”).

As to **Claim 5**, Nakao fails to teach that the reference voltage generating section includes a plurality of reference voltage generating circuits that are respectively for colors used for performing color display of the image. Examiner cites Nakamura to teach that the reference voltage generating section includes a plurality of reference voltage generating circuits that are respectively for colors used for performing color display of the image (**Fig. 2, 20**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate separate color voltage reference generators as taught by Nakamura in the display device taught by Nakao in order to generate the gradation reference voltage group for each specific color, thereby controlling each color separately in order to enhancing the optical characteristics of the display device (**Nakamura—Pg. 3, ¶ 41**).

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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R.A.
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Division 2629



SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER